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ECONOMIC STATUS OF THE WASHINGTON, OREGON, AND CALIFORNIA GROUNDFISH FISHERY IN 1985

By

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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Southwest Region

NOAA Technical Memorandum NMFS

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Economic Status of the Washington, Oregon and California Groundfish Fishery in 1985

I. Introduction

This is the second in a series of annual reports describing the economic status of the Washington, Oregon, and California (West Coast) groundfish industry. The West Coast groundfish fishery consists of several different species of rockfish, flatfish, and roundfish such as sablefish and Pacific whiting (hake). The Groundfish Fishery Management Plan, implemented by the Pacific Fishery Management Council (PFMC) in 1982, currently has jurisdiction over more than 100 different species of groundfish. An array of different types of gears are used to harvest these assorted groundfish species, including otter trawls, pots and traps, longlines, set nets (gill and trammel), jigs, and hook-and-line.

This report reviews the economic status of the industry in 1985 and compares it to 1984. Section II presents an overview of the past fishing season, including a discussion of management actions having a bearing on the progress of the fishery. The economic status of commercial and recreational harvesting sectors are described in Sections III and IV, respectively. Section V examines the past performance of West Coast processing plants that produce groundfish products. Trends and changes in domestic and international markets for West Coast groundfish are covered in Section VI.

II. Overview of the Fishery in 1985

The total landings of groundfish from U.S. waters off the West Coast declined substantially from 1984. The domestic shoreside and joint venture landed catch was 121,400 mt in 1985, down 28 percent from the 1984 total groundfish catch of 169,300 mt (Table 1). The 1985 exvessel value of the landed catch was $60.8 million, about the same as in 1984.

The decrease in total groundfish production was due entirely to a sharp drop in joint venture Pacific whiting deliveries. The joint venture catch and value fell 60.3 percent and 68.1 percent, respectively (Table 1). At the same time, domestic shoreside groundfish landings of all species were essentially unchanged (Table 2), while the exvessel value increased 16 percent. Within individual states, shoreside landings were higher in California (5.4%) and Oregon (3.8%), but fell by 16 percent in Washington due to lower rockfish, Dover sole, and sablefish landings (Tables 2 and 3). Substantially higher exvessel prices paid for rockfish and sablefish in 1985 (Table 4) lead to an increase in the exvessel value of landings in all three states. Groundfish became the most valuable single fishery on the West Coast in

1985, accounting for 39 percent of the total exvessel value of all fish landed (Table 5).

The fisheries for principal species/species groups of the West Coast commercial groundfish catch are reviewed below and are summarized in Table 6.

Sablefish

A total of almost 14,015 mt of sablefish was landed in 1985, about the same as in 1984. Trawl gear accounted for 51 percent of the total landings, while pot and longline gear comprised 25 percent and 17 percent, respectively. The exvessel value of these landings was over $12.0 million, or 67 percent above the 1984 total value. An increase in the demand for U.S. sablefish in Japan resulted in sharply higher exvessel prices paid for all sizes of sablefish. Sablefish became the single most valuable commercial groundfish species landed on the West Coast in 1985.

Widow Rockfish

Widow rockfish landings were limited by a quota of 9,300 mt., but because an incidental trip limit allowance is triggered when landings reach 90 percent (8,400 mt) of the quota, the total landed catch was 9,026 mt. This was slightly below the calendar year quota and 7 percent below 1984 landings of 9,680 mt. The small decline in landings was offset by an 11 percent increase in the average exvessel price (Table 4). The exvessel value of 1985 landings ($4.98 million) was 2 percent above 1984.

Pacific Ocean Perch

Landings of Pacific Ocean Perch were 1,365 mt, down 15.5 percent from the 1984 total of 1,616 mt. The exvessel value of the 1985 catch was $758,000.

Other Rockfish

Total West Coast landings of rockfish other than widow rockfish were 26,443 mt compared to 28,682 mt in 1984. Total rockfish production declined for the second consecutive year, although the 8 percent decrease in 1985 was less than the 20 percent drop that had occurred in 1984. The reduction in landings was more than offset by exvessel prices that increased by 12 percent (Table 4). The exvessel value of rockfish landings was $17.1 million or 8 percent higher than in 1984.

The downward trend in rockfish landings since 1983 is due in large part to the trip limit regulations imposed on the Sebastes complex in the Columbia/Vancouver management area. These regulations became more restrictive in 1985 when yellowtail rockfish (Sebastes flavidus) landings were limited to a specified

quantity of the total allowable Sebastes trip poundage in the same area. Yellowtail rockfish trip limits of either 3,000 pounds twice weekly, 5,000 pounds once weekly, or 10,000 pounds once biweekly probably helped reduce Sebastes landings by 22 percent in Washington (Table 3). Even though regulations were unchanged South of Cape Blanco, the quantity of Sebastes landed in California decreased 12 percent in 1985.

Flatfish

Landings of all flatfish species increased to over 30,000 mt, up 9 percent from 1984 landings of 27,700 mt. In terms of volume, Dover sole accounted for the largest increase in production, totaling over 20,500 mt in 1985 compared to 19,200 mt in 1984. Landings of English and petrale sole rose by 9 percent and 5 percent, respectively. The other flatfish group had the largest gain in production (20 percent), due largely to the expansion in arrowtooth flounder and rex sole landings. Despite slightly lower average exvessel prices paid for Dover sole and petrale sole, the exvessel value of landings for all species categories was higher (Table 3). The exvessel value of $10.8 million for Dover sole landings made this species the second most valuable single groundfish landed on the West Coast in 1985.

Pacific whiting (hake)

Shoreside landings of Pacific whiting continued to increase in 1985. Trawl vessels delivered a total of 3,894 mt to shoreside processing facilities on the West Coast, compared to 2,720 mt in 1984. The industry is selling primarily frozen, headed-and-gutted whiting in 5-10 pound boxes to ethnic markets in the southwestern United States. The positive growth in shoreside landings was, however, overshadowed by the rather large drop in U.S. trawl deliveries in joint ventures to foreign processing vessels. Joint venture landings fell 60 percent to only 31,600 mt because the Soviet Union settled on a smaller JVP allocation only after initially indicating that all joint venture purchases of whiting would be halted in 1985. The Soviets reportedly became concerned about the suitability of the whiting products for human consumption.

III. Commercial Harvesting Sector

Otter Trawl Fleet

The otter trawl fleet accounted for 87 percent of the quantity and 73 percent of the exvessel value of total West Coast groundfish landings in 1985. Total otter trawl fleet revenue (from shoreside and joint venture deliveries) declined from approximately $49.8 million in 1984 to $44.6 million in 1985; however, a 10 percent increase in the value of shoreside trawl landings helped compensate for the $8 million decrease in joint

venture revenues (Table 7).

The total trawl fleet (including joint venture vessels that did not land groundfish shoreside) was 359 vessels in 1985, down 42 vessels or 12 percent from 401 in 1984. Estimated average gross revenue per vessel from West Coast shoreside landings increased 23 percent from $92,600 in 1984 to $114,100 in 1985 (Table 7). At the same time gross revenue per vessel from the whiting joint venture fishery declined 61 percent from $563,800 in 1984 to $220,700 in 1985 (Table 8). The combined average gross revenue per vessel from these two sources increased slightly from $121,300 in 1984 to $124,200 in 1985. Some vessels which engaged in one or both of these fisheries in 1985 also earned significant revenue from joint venture fishing and bottom trawling in Alaska. However, the amount of income to West Coast trawlers from fishing in Alaska is unknown.[1]

The groundfish trawl fleet has declined in size continually since reaching a peak in 1982 (Table 9). The 358 vessel fleet represents a five-year low and approaches the size that prevailed during the relatively stable years before 1980. In 1985 a total of 85 trawl vessels left the fleet, while 46 entered. The majority of the vessels leaving in 1985 were in the 40-69 foot size class (Table 10). Despite this exodus the average physical characteristics of the fleet were about the same as in 1984.

The combination of stringent trip limits (Sebastes north of Cape Blanco and widow rockfish coastwide), more viable alternative fisheries, an unusually large number of vessel sinkings, and financial problems all contributed to this rapid decline in the fleet. In order to provide some indication of which factors may have caused this attrition in 1985, several people familiar with the trawl fleet were asked why vessels exited. Out of the total of 85 trawl vessels which left the fleet, 18 percent are known to have fished joint ventures or shoreside in Alaska, 9 percent transferred to the pink shrimp fishery, 5 percent switched to other gears, 20 percent were damaged or lost at sea (i.e. sinking, burned, etc.), 7 percent were repossessed, 12 percent were idle, and 29 percent stopped dragging for unknown reasons (Table 11).

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[1] Those trawl vessels participating in Alaska shared in the benefits resulting from the continued expansion in joint venture landings of pollock and yellowfin sole. Joint venture landings in Alaska increased from 578,000 mt in 1984 to almost 874,000 mt in 1985.

Pot/Trap Vessels

Sablefish landings by pot/trap vessels were slightly lower in 1985 (Table 7). The 1985 catch of 3,642 mt is 5 percent below 1984 landings, and is the second lowest total landed by the pot/trap fleet since 1980. However, the exvessel value of the 1985 landings ($3.48 million) rose significantly to offset the slight reduction in catch. The increased value reflects substantially higher exvessel prices paid for sablefish; the average price per pound paid for pot sablefish increased 49 percent after adjusting for inflation, or from $0.28 in 1984 to $0.43 in 1985.

The demand for sablefish in Japanese markets continued to increase in 1985, putting upward pressure on prices paid to U.S. harvesters. The Japanese have increased purchases of all size classes of sablefish since their directed fishery has been sharply limited in Alaska over the last two years. Moreover, the limited supply of domestic fish coupled with an anticipated complete phase out of all foreign fishing in Alaskan waters caused Japanese buyers to begin stockpiling sablefish (Miller 1986). This has resulted in sharply higher U.S. harvests of sablefish to supply the Japanese market. In particular the longline harvest of sablefish in Alaska has increased from 3,200 mt in 1983 to 11,283 mt in 1985 and the exvessel price rose to an average of $0.62 per pound in 1985.

A total of 32 pot/trap vessels landed sablefish on the West Coast in 1985, the lowest number of vessels participating in the last five years (Table 9). Average landings per vessel increased very slightly from 113.4 mt to 113.8 mt. However, gross revenue per vessel was approximately $109,000, up over 57 percent from the $70,000 per vessel in 1984.

Other Gear Vessels

The quantity of groundfish landed by other gears, including longline, set-net, troll, jig, pole and shrimp trawl totaled approximately 11,900 mt in 1985. This was 12 percent lower than the 13,500 mt landed in 1984; however a 27 percent increase in the exvessel value of the other gear catch more than offset this decline in landings. Within the other gear group, longline landings more than doubled while the exvessel value of the longline catch almost tripled, due primarily to the favorable development in the sablefish market (Table 7).

IV. Recreational Harvesting Sector

Groundfish are caught for recreation by anglers who fish from piers, jetties, beaches, banks, party or charter passenger vessels and private or rental boats. The 1985 West Coast

recreational groundfish catch was approximately 14.3 million fish, or 16.3 percent higher than the total for 1984 (Table 12).[2] Nearly 80 percent of the groundfish caught by anglers occurred in California, with Southern California accounting for the entire increase in the California groundfish sport catch. The recreational groundfish catch also improved in Oregon and Washington. Although still below the catches recorded before the effects of El Niño were felt in 1983, the West Coast recreational groundfish harvest appears to be returning to normal. Groundfish constituted 33.1 percent of the total coastal recreational catch of all sportfish species in 1985, only slightly below their percentage contribution in 1981 and 1982 (Table 12).

The distribution of recreational groundfish catches among the different modes of fishing is shown in Table 13. Anglers fishing on party/charter and private boats catch the majority of the groundfish; in 1985 the party/charter and private boat recreational groundfish harvests were up by 19 percent and 17 percent, respectively. There are currently no statistics available on angler participation rates attributable to groundfish fishing as well as the number of directed groundfish trips taken by commercial passenger fishing vessels.

The number of commercial vessels providing or licensed to provide recreational fishing opportunities for passengers in each state is given in Table 14. It is not known how many of these fish for groundfish, although in California, it has been estimated that 245 vessels made at least one directed groundfish sportfishing trip in 1985 (S. Crooke, CDFG, Long Beach, pers. comm.).

V. Groundfish Processing Sector

Every year the NMFS surveys processing plants on the West Coast (including Puget Sound) to determine the volume and value of processed fish products and employment in the fish processing sector. Response rates vary from year to year and from state to state. In recent years the response in California has ranged between 75-90 percent, while the response in Washington and Oregon has been close to 100 percent.

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[2] The total catch, rather than the retained catch, was selected as the best indicator of mortality in the groundfish sport fishery. Groundfish taken by hook-and-line are usually retrieved from deep water and do not survive when discarded.

The number of groundfish plants responding to the survey are given for the period 1975-1984 (Table 16); statistics for 1985 are not yet available.[3] Over the last ten years the number of West Coast groundfish processing plants responding has ranged from 45 in 1977 to 82 in 1983. Of the 74 plants reporting groundfish production in 1984, 28 engaged in flounder production, 45 produced rockfish, 27 handled lingcod, 23 sold sablefish, and 28 processed cod, pollock, and whiting.[4] Most of these groundfish plants process complementary fish products such as crab and shrimp; 55 groundfish plants also produced crab and 31 produced shrimp in 1984.[4] In terms of total output of fish products, groundfish accounted for 61 percent of the volume and 42 percent of the gross receipts generated by the 74 groundfish processing firms in 1984.

Processor revenue in 1985 from products of Washington, Oregon, and California landings of groundfish cannot be estimated because wholesale price data from the NMFS Processed Products Survey for 1985 is not yet available. Total revenue for processors in the groundfish industry is dependent on a variety of fisheries other than groundfish, including some outside the West Coast (e.g., Alaskan halibut, and crab). Since data on shipments from other areas are unavailable, even the volume of processed products produced by groundfish processors cannot be accurately estimated. However, for each of those sources of fish for which information is available, namely, West Coast groundfish, crab, shrimp, and salmon fisheries, the supply to processors increased in 1985.

Employment in groundfish processing plants is available for the 74 firms responding to the 1984 survey (Table 17). The peak employment period occurred generally during the summer months. December and January are important hiring months because the Dungeness crab fishery is at its peak. The 74 groundfish processing plants employed an average of 3,864 workers over all 12 months of 1984.

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[3] The plants reporting in Washington include Puget Sound groundfish processors that handle a large volume of Pacific whiting.

[4] Data are unpublished from the 1984 Processed Products Survey. Department of Commerce, NOAA, National Marine Fisheries Service, Fishery Resource Statistics Program, Washington, D.C.

VI. West Coast Groundfish Markets

As described in the previous section, the total amount of locally caught fresh and fresh-frozen domestic groundfish supplied to West Coast markets was unchanged in 1985. However, imports of selected groundfish species entering West Coast ports from New Zealand and Canada since 1983 continued to grow steadily through 1985 (Table 18). In 1985 the quantity of fresh and fresh-frozen rockfish imported to West Coast ports from Canada increased 66 percent while imports of orange roughy from New Zealand continued to increase, reaching over 3,800 mt in 1985. Consequently, the total quantity of groundfish supplied to the West Coast increased significantly in 1985.

This increase in imports cannot be explained by appreciation of the U.S. dollar relative to Canadian and New Zealand currencies. The average exchange rate with Canada was 1.366/U.S. dollar in 1985, the strongest it has been since 1980 (Table 19). However, it has only increased by 11 percent since 1983. Imports from New Zealand increased over the same period in spite of the appreciation of the New Zealand dollar by 34 percent relative to the U.S. dollar.

The principal groundfish export for West Coast distributors is sablefish. Statistics on the quantity of sablefish exported from the U.S. in 1985 are not yet available. However, Suisan Keizai Shimbun (1986) reports that Japan imported 12,100 mt from the U.S. and Canada in 1985. This was 43 percent higher than the total imported in 1984. Factors contributing to the increased demand for sablefish were lower domestic landings by the Japanese fleet, heightened concern that directed sablefish fishing would be eliminated in Alaska, and lower than normal inventories in Japanese markets (Miller 1986). The limited supply of domestic fish coupled with this increased demand for U.S. exports resulted in substantial increases in the price paid for West Coast sablefish in 1985.

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Table 1 - Landings and Exvessel Values of Landings in Washington, Oregon, and California, Including Joint Venture Deliveries in Waters off These States.

	1985	1984	% Change
Shoreside (mt)	89,804	89,855	-0.05
Joint Venture (mt)	31,567	79,468	-60.3
Total WOC Landings	121,371	169,323	-28.3
Shoreside Values $			
Current	57,044,000	49,268,000	+15.8
Real[1]	24,609,000	22,054,000	+11.6
Joint-Venture Value			
Current	3,776,000	11,841,000	-68.1
Real	1,629,000	5,300,000	-69.3
Total WOC Groundfish Landed Value			
Current	60,820,000	60,931,000	-.02
Real	26,238,000	27,274,000	-3.8

[1] Real values are current values adjusted to eliminate the effects of inflation. This adjustment has been made by dividing current values by the current year GNP implicit price deflator, with a base year of 1972. The GNP deflators are 2.3176 in 1985 and 2.234 in 1984.

Source: Pacific Coast Fishery Information Network (PacFIN) Groundfish Report Series, Preliminary Data

Table 2 - California, Oregon, and Washington Shoreside Commercial Groundfish Landings (Metric Tons) and Exvessel Values (Thousands of Dollars) from 1977-1985.

Year	California		Oregon		Washington		Total Coast	
	mt	$	mt	$	mt	$	mt	$
1977	32,082	12,185	10,172	4,150	12,712	4,362	54,966	20,697
1978	36,805	18,457	16,469	7,871	19,285	8,213	72,559	34,541
1979	36,392	19,566	28,935	17,264	22,508	11,112	87,835	47,942
1980	36,862	16,551	28,515	11,425	22,514	9,119	87,891	37,095
1981	42,698	21,460	37,487	14,711	23,683	10,653	103,868	46,824
1982	52,608	27,795	41,021	20,444	25,474	12,100	119,002	60,339
1983	39,498	21,984	35,200	18,420	22,970	11,796	97,668	52,200
1984	40,570	22,914	28,211	15,237	21,074	11,117	89,855	49,268
1980-84 Average	42,447	22,141	34,087	16,047	23,143	10,957	99,657	49,145
1985	42,750	26,252	29,284	17,191	17,770	13,601	89,804	57,044

Source: State Fishery Agencies
PacFIN, Groundfish Report Series

Table 3 - Commercial Landings of Individual Groundfish Species by State for 1984 and 1985.

Species	California		Oregon		Washington	
	1984	1985	1984	1985	1984	1985
Lingcod	950	690	1,057	1,051	2,038	1,931
Pacific Cod	2	1	80	37	505	319
Pacific Whiting	2,335	2,996	338	885	47	14
Sablefish	4,823	5,121	4,835	5,273	4,413	3,621
Pacific Ocean Perch	41	65	752	786	823	514
Widow Rockfish	2,781	3,038	5,368	4,357	1,677	1,631
Other Rockfish	16,810	14,710	6,902	7,952	4,824	3,782
Dover Sole	9,774	12,051	6,108	5,709	3,320	2,766
English Sole	952	1,063	451	468	319	340
Petrale Sole	591	856	689	578	460	393
Other Flatfish	1,261	1,849	2,077	1,869	2,190	2,303

Source: PacFIN, Groundfish Report Series

Table 4 - Average Annual Exvessel Prices Paid for Some Commercially Important Groundfish Species from 1977-1985.

	Sablefish		All Rockfish Combined		Widow Rockfish		Dover Sole		English Sole		Petrale Sole	
	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real
1977	.154	.109	.163	.155	-	-	.161	.114	.237	.167	.315	.222
1978	.283	.186	.181	.119	-	-	.207	.136	.245	.161	.371	.244
1979	.356	.215	.199	.121	-	-	.215	.130	.286	.173	.447	.270
1980	.199	.112	.159	.090	-	-	.211	.119	.328	.185	.458	.258
1981	.215	.111	.170	.088	.139	.071	.222	.115	.297	.153	.512	.264
1982	.260	.126	.196	.095	.158	.076	.233	.113	.318	.154	.606	.293
1983	.250	.116	.224	.104	.194	.090	.224	.116	.322	.149	.683	.317
1984	.233	.105	.251	.112	.226	.101	.231	.103	.322	.144	.709	.317
1985	.391	.169	.282	.122	.250	.108	.229	.099	.337	.145	.660	.285

Source: PacFIN, Groundfish Report Series

NOTE: Real prices were adjusted for inflation using the GNP implicit price deflator, where 1972=1.00.
All prices are weighted averages.

Table 5 - Contribution of West Coast Groundfish to Domestic West Coast Commercial Fishing Vessel Revenue.

	1984		1985	
Fishery	Value of West Coast Landings	Percent of Total	Value of West Coast Landings	Percent of Total
Tuna	87,031,000	46%	27,080,000	17%
Groundfish	60,931,000	31%	60,820,000	39%
Dungeness Crab	18,897,000	10%	26,907,000	17%
Wetfish	11,376,000	6%	12,700,000	8%
Salmon	9,567,000	5%	19,384,000	12%
Pink Shrimp	4,468,000	2%	9,685,000	6%
TOTAL	193,816,000		156,576,000	

Source: State Fishery Agencies

Table 6 - Landings and Value of Individual Groundfish Species Landed in Washington, Oregon, and California in 1984 and 1985.[1]

Species	1984		1985		% Change	
	mt.	$	mt.	$	mt.	$
Lingcod	4,046	2,278,500	3,672	2,240,600	-9.4	-1.7
Pacific Cod	587	301,900	359	192,900	-38.8	-36.1
Pacific Whiting	2,720	405,700	3,894	582,800	+43.2	+43.6
Sablefish	14,070	7,229,500	14,015	12,053,300	-0.4	+66.7
Pacific Ocean Perch	1,616	804,900	1,365	758,000	-15.5	-5.8
Widow Rockfish	9,680	4,895,200	9,026	4,983,000	-6.7	+1.8
Other Rockfish	28,682	16,454,200	26,443	17,163,000	-7.8	+4.3
Dover Sole	19,202	9,771,700	20,525	10,854,900	+6.9	+17.8
English Sole	1,722	1,221,300	1,871	1,377,100	+8.7	+12.8
Petrale Sole	1,739	2,719,100	1,826	2,962,300	+5.0	+8.9
Other Flatfish	5,033	2,673,900	6,022	3,404,000	+19.6	+27.3
TOTAL	89,097	48,756,000	89,004	56,572,000	-0.0	+16.0

Source: PacFIN, Groundfish Report Series

[1] Includes domestic landings from U.S. coastal waters off WOC, but not Puget Sound; A small amount of landings of miscellaneous groundfish species are not included in the totals.

Table 7 - West Coast Commercial Groundfish Shoreside Landings, Exvessel Values (Thousands of Dollars) and Average Vessel Gross Revenues for Selected Gear Groups, 1980-1985. (Numbers of vessels using gear types other than the three listed below are unknown).

Year	Otter Trawl			Pot/Trap			Longline		
	mt	$	$ per Vessel	mt	$	$ per Vessel	mt	$	$ per Vessel
1980	79,800	32,230	70.4	2,950	1,530	13.2	N/A	N/A	-
1981	91,300	38,200	93.6	3,955	2,038	30.9	2,600	2,150	11.3
1982	103,300	47,227	106.4	6,530	4,882	59.5	2,500	2,750	13.2
1983	81,700	40,752	93.5	5,440	3,635	59.6	1,300	1,322	7.2
1984	72,500	36,940	92.6	3,854	2,354	69.2	1,346	1,601	N/A
1985	74,300	40,852	114.1	3,642	3,484	108.9	2,950	4,730	N/A

Source: PacFIN, Groundfish Report Series

Table 8 - Landings and Participation in Pacific Whiting Joint-Venture Fisheries off of Washington, Oregon, and California, 1979-1985.

Year	Landings (mt)	Estimated Dollar Value ($)	Number of Trawl Vessels	Average Revenue Per Vessel ($)
1979	9,054	1,162,000	11	105,600
1980	26,793	3,275,000	15	218,300
1981	43,758	6,345,000	21	302,100
1982	68,420	10,367,000	17	609,800
1983	72,140	10,217,000	19	537,700
1984	79,047	11,841,000	21	563,800
1985	31,567	3,751,000	17	220,700

Source: PacFIN, Groundfish Report Series
NMFS, Northwest Regional Office

Table 9 - Number of Vessels in Washington, Oregon, and California Commercial Groundfish Fleets, 1981-1985.

Year	Otter Trawl	Pot/Trap[1]	Longline[1]
1981	408	66	191
1982	444	82	208
1983	436	59	185
1984	397	34	96[2]
1985	358	32	129[2]

Source: State Fishery Agencies

[1] Vessels landing fish caught with this gear-type in two or more states are counted in each state for years 1982-83. These numbers therefore are an upper bound for the true number of vessels using this gear-type.

[2] Represents number of longline vessels landing in Oregon and Washington, where double counting has been eliminated; California data unavailable.

Table 10 - Washington, Oregon, and California Groundfish Trawl Fleet Characteristics, 1983-85.

	1983	1984	1985
Total Number Landing	436	397	358
Frequency by Size (Length) Class			
< 30 feet	2	2	2
30-39	22	20	15
40-49	112	100	96
50-59	124	108	93
60-69	109	104	98
70-79	43	44	39
80-89	11	11	6
> 90	13	8	9
Vessel Characteristics:			
Average Length	57.25	57.41	57.6
Average Horsepower	312.4	312.4	309.7
Average Net Tonnage	45.7	45.5	45.8
Number Vessels Based in Each State			
California	195	169	157
Oregon	161	146	121
Washington	80	82	80
Vessels Landing in More than One State	74	61	41

Source: State Fishery Agencies

Table 11 - Disposition of 85 Trawl Vessels Departing From the Fleet in 1985.

Status	Frequency	Relative Percentage
Alaska	15	17.6%
West Coast Shrimp Fishery	8	9.4%
Other Gears (Longline, gillnet, etc.)	4	4.7%
Bank Repossession	6	7.1%
Lost at Sea (Sank, Burned)[1]	17	20.0%
Idle	10	11.8%
Unknown	25	29.4%
TOTAL	85	100.0%

Source: State Fishery Agencies
U.S. Coast Guard

[1] Includes vessels that were damaged, but which may not be permanent losses.

Table 12 - Estimated Recreational Catch (thousands of fish) of Groundfish in Washington, Oregon and California, 1981-1985.

Year	California		Oregon	Washington	Coastal Total	Percent of Total Coastal Recreational Catch
	Southern	Northern				
1981	4,800	7,600	2,000	3,600	18,000	35.5
1982	6,700	6,200	1,500	3,300	17,500	33.4
1983	3,600	5,400	700	2,500	12,200	27.4
1984	5,300	4,700	700	1,600	12,300	26.3
1985	6,700	4,700	1,000	1,900	14,300	33.1

Source: National Marine Fisheries Service (NMFS). 1984. Marine Recreational Fishery Statistics Survey (MRFSS), Pacific Coast, 1981-1982, Current Fishery Statistics No. 8323
NMFS. 1985. MRFSS, Pacific Coast, 1983-1984, Current Fishery Statistics No. 8325
NMFS. 1986. MRFSS, Preliminary Unpublished Data for 1985

Table 13 - Estimated West Coast Recreational Groundfish Catch (thousands of fish) by mode of fishing, 1981-1985.

Year	Man-Made	Beach/Bank	Party/Charter	Private/Rental	Total
1981	600	2,600	8,700	6,100	18,000
1982	400	400	9,900	7,000	17,700
1983	600	400	6,500	4,700	12,200
1984	700	200	4,800	6,600	12,300
1985	600	300	5,700	7,700	14,300

Source: National Marine Fisheries Service (NMFS). 1984. Marine Recreational Fishery Statistics Survey (MRFSS), Pacific Coast, 1981-1982, Current Fishery Statistics No. 8323
NMFS. 1985. MRFSS, Pacific Coast, 1983-1984, Current Fishery Statistics No. 8325
NMFS. 1986. MRFSS, Preliminary Unpublished Data for 1985

Table 14 - Number of Sportfishing Party/Charter Boats Participating or Licensed on the West Coast from 1981-85.

Year	California[1]	Oregon[2]	Washington[2]
1981	291	248	478
1982	310	253	414
1983	322	255	363
1984	323	218	355
1985	313	226	316

Source: State Fishery Agencies

1 Represents number of all sportfishing vessels participating statewide and landing all sport caught species.

2 Represents total number of licensed boats; therefore these figures are an upper bound for the total number of participating vessels.

Table 15 - Wholesale Prices ($/pound) of West Coast Groundfish Processed Products by Species Groups, 1975-1984.

Year	All Flounders	Lingcod	Rockfish	Sablefish
1975	0.901	0.619	0.585	0.705
1976	1.061	0.817	0.737	0.943
1977	1.226	0.887	0.835	0.697
1978	1.450	0.878	1.095	0.738
1979	N/A	N/A	N/A	N/A
1980	1.600	1.102	0.918	0.831
1981	1.688	1.157	1.011	0.833
1982	1.876	1.162	1.086	0.911
1983	1.923	1.232	1.267	0.893
1984	1.945	1.297	1.255	0.966

Source: Department of Commerce, NOAA, National Marine Fisheries Service, Fishery Resource Statistics Program, Washington, D.C., Unpublished Data from Processed Products Survey

NOTE: Average prices computed by dividing total value by pounds of processed product, as reported in the NMFS Processed Products Survey.

Table 16 - Number of Reporting Plants that Processed Groundfish on the West Coast, 1975-1984.

Year	California	Oregon	Washington	Total
1975	22	10	16	48
1976	22	11	16	49
1977	27	11	17	45
1978	25	16	17	48
1979	N/A	N/A	N/A	-
1980	23	13	25	51
1981	21	16	38	75
1982	19	18	37	74
1983	32	16	34	82
1984	32	11	31	74

Source: Department of Commerce, NOAA, National Marine Fisheries Service, Fishery Resource Statistics Program, Washington, D.C., Unpublished Data from Processed Products Survey

Table 17 - Average Annual Monthly Employment in West Coast Groundfish Processing Plants in 1984.

Month	California	Oregon	Washington	Total
January	2,143	817	872	3,832
February	2,041	870	895	3,806
March	1,994	874	892	3,760
April	1,954	813	828	3,595
May	2,132	799	1,013	3,944
June	2,023	815	1,010	3,848
July	2,100	917	1,106	4,123
August	2,101	926	1,121	4,148
September	1,996	854	1,082	3,932
October	2,048	805	1,057	3,910
November	1,869	757	903	3,529
December	2,195	838	914	3,947

Source: Department of Commerce, NOAA, National Marine Fisheries Service, Fishery Resource Statistics Program, Washington, D.C., Unpublished Data from Processed Products Survey

Table 18 - Selected Imports (metric tons) of Groundfish into West Coast Ports of Entry, by Country of Origin, 1983-1985.

Species	Country	1983	1984	1985
Orange Roughy	New Zealand	1,819	2,547	3,829
Rockfish	Canada	2,278	2,566	4,252
Flatfish	Canada	408	505	457
Pacific Whiting	Canada	3,328	4,625	7,091

Source: NMFS, Statistics and Market News
Southwest and Northwest Regional Offices

Table 19 - Annual Exchange Rates (Currency/Dollar) with Selected Foreign Countries, 1980-1985.

Year	Canada	Japan	New Zealand
1980	1.1693	226.63	97.340
1981	1.1990	220.63	86.858
1982	1.2344	249.06	75.101
1983	1.2325	237.55	66.790
1984	1.2953	237.45	57.837
1985	1.3658	238.47	49.752

Source: Federal Reserve Bulletin. 1985. 71(6), p. A68
Federal Reserve Bulletin. 1986. 72(6), p. A68
Washington, D.C.